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ABSTRACT

A hand-scoring system for a three-level confidence-marking scheme for short answer and multiple-choice tests is described. The scoring system is for a test where the student is asked to indicate for each answer whether the probability of his being correct is more than 1/2 (sure), 1/2 (neutral), or less than 1/2 (guess). The effect of the system is to add 1/3 of a point for each response if the student is correct and sure, or wrong and guessed; to subtract 1/3 point if the student is correct and guessed, or wrong and sure; and not to alter the score for neutral responses. Although the system will probably double the time required for scoring, it is simple and mechanical. A sample answer sheet and student instruction form are included. (DG)

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A HAND-SCORING SYSTEM FOR CONFIDENCE-WEIGHTED SCORES

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The system described here is based on a three-level confidence-marking scheme. Scoring will probably take about twice as long as usual. The scoring steps are simple enough for students to do themselves, at least at the high school level.

If a student feels that the chances are better than 50:50 that his answer is correct, he should mark X in the "sure" box next to his answer. If he feels the chances are less than 50:50, he should mark X in the "guess" box. Not marking either box indicates chances of about 50:50 ("uncertain") or "I don't want to play the game."

The answer key is placed against the answer column as usual. But instead of marking only the correct answers, both correct and incorrect answers are marked: when an answer is correct, the instructor circles the "sure" box; when the answer is incorrect, the "guess" box is circled. The weighted score is then derived from three counts:

number correct = number of circled "sure" boxes

appropriate confidence = number of circled X's

inappropriate confidence = number of uncircled X's

The weighted score is:

$$\text{number correct} + \frac{1}{3}\left(\text{appropriate confidence} - \text{inappropriate confidence}\right)$$

SAMPLE TEST FORM

(for multiple-choice or short-answer items)

	sure	guess		sure	guess
1.___	☐	☐	21.___	☐	☐
2.___	☐	☐	22.___	☐	☐
3.___	☐	☐	23.___	☐	☐
4.___	☐	☐	24.___	☐	☐
5.___	☐	☐	25.___	☐	☐
6.___	☐	☐	26.___	☐	☐
7.___	☐	☐	27.___	☐	☐
8.___	☐	☐	28.___	☐	☐
9.___	☐	☐	29.___	☐	☐
10.___	☐	☐	30.___	☐	☐
11.___	☐	☐	31.___	☐	☐
12.___	☐	☐	32.___	☐	☐
13.___	☐	☐	33.___	☐	☐
14.___	☐	☐	34.___	☐	☐
15.___	☐	☐	35.___	☐	☐
16.___	☐	☐	36.___	☐	☐
17.___	☐	☐	37.___	☐	☐
18.___	☐	☐	38.___	☐	☐
19.___	☐	☐	39.___	☐	☐
20.___	☐	☐	40.___	☐	☐

$$\frac{\text{appropriate confidence } \square \;-\; \text{inappropriate confidence } \square}{\square} \times \tfrac{1}{3} = \frac{\square \text{ number correct}}{\square \text{ weighted score}} = \square \text{ confidence gain}$$

STUDENT INSTRUCTIONS

On this test we would like to find out, besides how many right answers you know, if you can tell when you know the right answer and when you don't. For each question you can mark one of three levels of confidence in your answer:

mark the "sure" box	if you think that your chances of being right are better than 50:50
don't mark either box	if you think that your chances of being right are just about 50:50 (for example, if you can't decide between two answers)
mark the "guess" box	if you think that your chances of being right are less than 50:50

Your test score will be adjusted for how appropriately you mark your confidence. The adjustment does not depend directly on how high your confidence is, but on how often you mark right answers "sure" and mark wrong answers "guess". The scoring system has been designed so that you can expect to get your highest score by honestly marking the confidence you feel.

If you don't mark either box, you will get the usual score: 1 point for a correct answer, 0 for a wrong answer. If you mark "sure" or "guess", you will gain or lose 1/3 point, depending on whether your answer is correct or not:

	$1\frac{1}{3}$	"sure"
RIGHT	1	
	$\frac{2}{3}$	"guess"
.....		
	$\frac{1}{3}$	"guess"
WRONG	0	
	$-\frac{1}{3}$	"sure"